

Measuring the Association and the Strength of Association between Attitude, Elicited Interest and Actual Purchase of Organic Fruits and Vegetables in Mumbai

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Abstract—A positive attitude leads to interest (intention to purchase) which in turn may trigger a purchase. There are many other factors which can come in between interest and purchase. This is true for organic fruits and vegetables also. The research tries to map this dependency of attitude and interest (intention to purchase) and attitude and actual purchase. The paper also assesses the strength of this dependency using chi-square test and Phi Coefficient/Cramers V. The research uses survey data which was collected using dichotomous measures of yes and no on the variable of attitude, elicited interest and purchase status. The sample size is 750. The variable of elicited interests and actual purchase versus attitude was analyzed using chi-square test. The finding of the research is consistent with previous research is and axiomatic. The revelation is, whereas elicited purchase interest and actual purchase are dependent on the attitude, the strength of the former is stronger than the latter. This may be due to price, availability, certification or some other variable which can be explored further.

Index Terms—attitude, purchase intention, organic fruits and vegetable, association, chisquare, Phi Coefficient / Cramers V

I. INTRODUCTION

The organic food movement is gaining momentum and evidence of this can be seen in developing countries also. As per study done by The World of Organic Agriculture Statistics and Emerging Trends 2016 the global market for organic food has expanded over five fold between 1999 and 2014 and this is going to continue and increase. The trend of the growth of the organic movement is secular and resilient. In 2014 organic products worth 80 billion US dollars were sold all over the globe in 2014. The US market

grew by 11 percent in 2014. The testimony to this growth is also coming from the supply side. Data show that organic farmland has grown and the total organic area increased to 43.7 million hectares.

Approximately two million organic farmers work on these 43.7 million hectares to produce the same. Eighty percent of these two million are in the developing countries and India has a lion's share of this eighty percent. In revenue terms the organic food industry generates revenue of 60 billion annually. A quest for a better health has forced the society to evaluate the food production system propagated by the green revolution. A feeling of betrayal by the current food system is being harbored by some individuals. To protect their health and also the health of the physical environment, individuals are motivated to adopt organic food.

As far as India is concerned it has experienced good growth in the organic business sector. Exports reportedly grew between 25 and 30 percent, and domestic markets grew even faster at about 40 percent.

The uptrend of the market growth rate and consumption is stark and stands out. The growth rate and consumption would have displayed a more intense up slope, had there not been a departure between interest and actual purchase and consumption of organic fruit and vegetables. Whereas attitude has a bearing on displayed interest and actual purchase of organic fruits and vegetable, the strength of the association needs to be checked and insights and information can be made public. This information helps in influencing and pressurizing the changes in a way to facilitate the consumption processes of organic fruits and vegetables.

II. NEED FOR THE STUDY

India is organic by default. India has a strong tradition and strength in organic farming. Despite the sweeping influence of chemical-based farming, traditional knowledge on sustainable farming practices still exists in remote areas of the country; chemical-free agriculture is still being practiced by default.

While higher revenues are currently achieved by exporting organic produce, the future growth of the organic segment will be influenced most significantly by developments in urban markets within India.

Effective marketing of organic products in local, regional and national markets could make a major contribution to securing the livelihoods of smallholder producers, to strengthening small family farm structures and sustainable development of the country's food and agriculture sector.

The first and ancillary contribution of the research is, to reaffirm the presence of association between elicited purchase interest, actual purchase and attitude. The second and the main contribution is to measure the strength of the association between elicited purchase interests, actual purchase and attitude in the context of Mumbai city. The degree of difference between the strength of association of attitude and Intention and attitude and purchase can be taken as the hurdle index in the consumption of organic fruits and vegetables in that region. This hurdle index can be a guide post for marketers for decision makers.

III. LITERATURE REVIEW

The research arena of organic food is very diverse globally. Plenty of work has been done in the area. Some of the snapshots of the dimension in the adoption of organic food are as follows.

1	Concerned with the health and future prospects of children, Organic foods are better	Davies et al. (1995).
2	Organic foods are healthier, it does not contain synthetic colorant, Organic food does use chemical fertilizer and do not have chemical pesticide residue, Organic food taste better and are environment friendly.	Schifferstein (1998)
3	Organic food is nutritious, tasty and healthy. Organic food is good for the environment.	Chinnici (2002).
4	Organic foods have the following characteristics. It is healthy, tasty, nutritious and simultaneously environment friendly.	Saba (2003).
5	Organic foods are better for me and my family and are characterized by better taste and absence of chemicals. Organic foods (animal products) are also better for animals	Padel (2005).
6	Organic food are of good quality in terms of their appearance, taste, Organic food are expensive and have longer shelf life. They tend to be healthy.	Radman (2005)
7	Organic food are not special, they are expensive. The expensiveness is not justified by the safety claim of the organic food. The quality features of organic food are it is healthier, tasty and are trustworthy.	Tsakiridou (2005).

8	Organic food is considered to be safe as it is free from chemicals and hence good for health.	Kullachai (2006).
9	Apart the claim of organic food being , healthy, free of pesticide residues, good for environment, being fresh, tasty many consume organic food just to try out (Novelty)	Somsook et al (2007).
10	Consumption of organic food is driven by health consciousness, food safety concern and also the self identity of being ethical towards the environment.	Michaelidou and Hassan (2008).
11	Organic food helps farmers get more income. Curiosity, being healthy, tasty, are the drivers of organic food consumption.	Idda et al. (2008).
12	Certification from a government or private and a clear price tag helps the consumption of Organic food which is perceived as high quality.	Kitboon (2009)
13	Being healthy, safe and good for the environment are the drivers of organic food consumption. The barriers are not having the complete knowledge and lack of trust	Zakowska-Biemans (2009).

The above variables are the dimensions on which attitude are formed towards organic fruit and vegetables.

Attitude is defined as a cognitive and psychological path of assessing an object either favorably or unfavorably (Eagly and Chaiken, 2007). Attitude has a high endurance index. Attitude towards the behavior refer to the level of which a person has a positive or negative feeling towards it. The more positive the attitude is regard to a behavior, the stronger is the individual's intention to perform the behavior under consideration (Tarkiainen and Sundqvist, 2005). Chen (2007) stated that consumer attitude and preferences to the purchase of a particular product are based on consumer attitude and personal desirability and affinity of performing a behavior. Attitude towards a certain behavior is based on the expectations and beliefs of the consequences as a result of a particular behavior (Ajzen, 1991; Tarkiainen and Sundqvist, 2005; Chen, 2007).

IV. OBJECTIVE

The objective of the study is to

1. Assess whether there is association between Attitudes and the intention to purchase organic fruits and vegetables and the strength of the association if any.

2. Assess whether there is association between Attitudes and the actual purchase of organic fruits and vegetables and the strength of the association if any.

V. HYPOTHESIS

H₀₁: Intention to purchase Organic Fruits & Vegetables is not significantly dependent on the attitude towards organic Fruits & Vegetables

H_{a1}: Intention to purchase Organic Fruits & Vegetables is significantly dependent on the attitude towards organic Fruits & Vegetables

H₀₂: Purchase status of Organic Fruits & Vegetables is not significantly dependent on the attitude towards organic Fruits and & Vegetables

H_{a2}: Purchase status of Organic Fruits & Vegetables is significantly dependent on the attitude towards organic Fruits & Vegetables

VI. RESEARCH METHODOLOGY

A. Data Collection

Data was collected from 750 respondents using a structured question. The questionnaire was administered through email and social media and personal meeting.

B. Questionnaire

The variable of attitude is measured by V8, V9 and V10.

The second variable of study is the intention to purchase (V12) which is measured on a dichotomous scale and the third variable is (V13) is the actual purchase status and is also measured on dichotomous scale.

V8 - Organic fruits and vegetables are better than Non organic fruit and vegetables

V9 V9 - Organic fruits and vegetables should be consumed more than Non organic fruit and vegetables

V10 - I am willing to buy organic fruits and vegetables because the benefit outweigh the cost

V12- I am interested in purchasing organic fruits and vegetables

V13- I have bought organic fruits and organic vegetables in the last one year

V. DATA ANALYSIS TABLE

Summary value of Chi square and the corresponding strength of association						
Column	Row	Pearson Chisquare	Null Hypothesis	Alternative Hypothesis	Phi Coefficient/ Cramers V	Strength of association
V13	V8	17.890 ^a	Rejected	Accepted There is an association	0.155	Negligible
V13	V9	29.657 ^a	Rejected	Accepted There is an association	0.199	Negligible
V13	V10	69.267 ^a	Rejected	Accepted There is an association	0.304	Weak
V12	V8	203.303 ^a	Rejected	Accepted There is an association	0.521	Strong
V12	V9	209.748 ^a	Rejected	Accepted There is an association	0.529	Strong
V12	V10	145.808 ^a	Rejected	Accepted There is an association	0.441	Strong
Value of +/- phi (Φ)		Strength of relationship				
Greater than 0.80		Strong				
0.40 to 0.80		Moderate				
0.20 to 0.40		Weak				
0.00 to 0.20		Negligible				

Source: Luck and Rubin (1999)

The value of the computed Chi-square value for all the above is tabulated and is found to be significant at 5 percent level of significance. Since the chi-square value is significant it means we can reject the Null hypothesis. This means that there is enough evidence to conclude that there is an association between attitude and purchase interest and also attitude and actual purchase. A test of the strength this association was done using Phi coefficient /Cramers V. The strength was strong when purchase interests were juxtaposed against attitude versus the strength of the association when actual purchase was juxtaposed against attitude. This difference may be due to the price availability and other issues.

Phi-coefficient (Φ) is a statistics which can be used to determine the strength of a relationship only in 2 X 2 contingency table.

VII. CONCLUSION

Attitude is one of the main drivers of adoption and consumption. Attitude has a direct bearing on interest to purchase and actual purchase. The study is again reiterates the fact but brings out the departure between interest and purchase. The strength of association decreases vis a vis the interest. This may be because of intolerance to premium pricing, restricted availability or any other issues.

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